

PROJECT DESCRIPTION

I. GENERAL

This project involves the modification of an existing mast arm Traffic Control Signal with street lighting and interconnect at the intersection of MD 355 (Urbana Pike) and Lowe's Lane in Frederick County. The CarMax Driveway entrance is being constructed opposite of Lowe's Lane in conjunction with MD 355 widening at this location. This will result in the need for the installation of new mast arm poles at this intersection. Additionally, Countdown pedestrian signal heads with audible pushbutton shall be installed across the east, north and west legs of the intersection. MD 355 (Urbana Pike) is assumed to run a north-south direction.

II. INTERSECTION OPERATION

- The intersection is to operate in a NEMA eight-phase, fully-actuated mode, with the MD 355 (Urbana Pike) approaches running concurrently. An Exclusive/Permissive left turn phase shall be provided for the southbound approaches of MD 355 (Urbana Pike). The Exclusive/Permissive left turn phase for the northbound approach shall remain in operation. A Countdown pedestrian phase with audible pushbutton actuation across the north leg of MD 355 (Urbana Pike) shall now be provided. New Countdown pedestrian phases with audible pushbuttons on recall shall be provided across the CarMax driveway and Lowe's Lane. The Lowe's Lane / CarMax Driveway approaches shall operate as a side street split phase. A right turn overlap phase shall be provided for both approaches of Lowe's Lane / CarMax Driveway.
- The existing full-traffic-actuated, eight-phase controller with all necessary equipment housed in a NEMA size "6" base-mounted cabinet shall be utilized at this intersection. Video interface shall be installed into the cabinet.
- SHA signal shop shall install APS control unit into controller cabinet. The Contractor shall deliver the Control Unit and audible pushbuttons to the SHA Signal Shop for testing and programming.

III. SPECIAL NOTES

- The Contractor shall be responsible for terminating all signal cables, to the appropriate terminals and shall properly label each cable.
- All controller cabinet wiring will be performed by the S.H.A. Signal Shop Contact Mr. Ed Rodenhizer at (410) 787-7652 seventy-two hours in advance of intended work.
- All underground and overhead utilities shown on these plans are schematic only and may not be complete. The Contractor shall be responsible for notifying Miss Utility prior to construction so that all utilities may be located in the field. If the Contractor perceives that a conflict between the utilities and the traffic signal will occur, the Contractor shall notify the Project Engineer immediately so that the conflict may be resolved.

4. APS will function as follows:

FOR MD 355 (URBANA PIKE)

- When pedestrian locates and presses the pushbutton for an extended time, the pushbutton unit will announce the following message "Wait to cross Urbana at Lowe's and CarMax. Wait."
- When the WALK phase begins, the pushbutton unit will provide the following message: "Urbana. Walk sign is on to cross Urbana."

FOR CARMAX DRIVEWAY

- When pedestrian locates and presses the pushbutton for an extended time, the pushbutton unit will announce the following message "Wait to cross CarMax at Urbana. Wait."
- When the WALK phase begins, the pushbutton unit will provide the following message: "CarMax. Walk sign is on to cross CarMax."

FOR LOWE'S LANE

- When pedestrian locates and presses the pushbutton for an extended time, the pushbutton unit will announce the following message "Wait to cross Lowe's at Urbana. Wait."
- When the WALK phase begins, the pushbutton unit will provide the following message: "Lowe's. Walk sign is on to cross Lowe's."

The contact persons for District #7 are as follows:

Mr. John Concannon Assistant District Engineer - Traffic Phone: (301) 624-8141	Chief, Traffic Operations Division Phone: (410) 787-7630
Ms. Sue Palmer Assistant District Engineer - Maintenance Phone: (301) 624-8105	Mr. Ed Rodenhizer Manager, Signal Operations Section 410-787-7652
Ms. Andrea Abend Assistant District Engineer - Utility Phone: (301) 624-8115	Mr. Sonny Bailey Manager, Sign Shop Operations 410-787-7676

EQUIPMENT LIST

A. EQUIPMENT TO BE FURNISHED BY THE SHA

THERE IS NO EQUIPMENT TO BE SUPPLIED BY THE SHA

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

SPEC. NUMBER	DESCRIPTION	QUANTITY
814	12", one-way, three-section (R,Y,G) LED traffic signal head with adjustable bracket for mast arm mounting and tunnel visors.	2 EA
814	12", one-way, four-section (R,Y,G,A,G) (left arrow) LED traffic signal head having proper span wire hangers, balance adjusters and tunnel visors.	2 EA
814	8'/12", one-way, four-section 8"(R,Y,G) 12"(GA) (left arrow) LED traffic signal head having proper span wire hangers, balance adjusters and tunnel visors.	2 EA

EQUIPMENT LIST (CONT.)

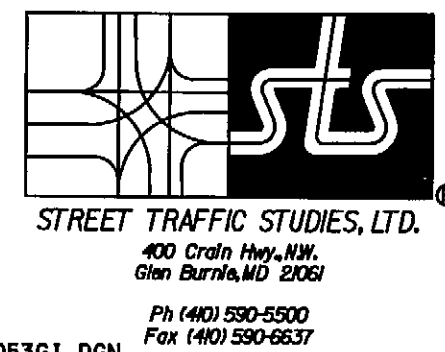
B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

SPEC. NUMBER	DESCRIPTION	QUANTITY
814	12", one-way, five-section (R,Y,A,Y,G,A,G) (left arrows) LED traffic signal head having proper span wire hangers, balance adjusters and tunnel visors.	2 EA
814	12", one-way, five-section (R,Y,A,Y,G,A,G) (right arrows) LED traffic signal head having proper span wire hangers, balance adjusters and tunnel visors.	2 EA
814	8'/12", one-way, five-section 8"(R,Y,G) 12"(Y,A,G,A) (left arrows) LED traffic signal head having proper span wire hangers, balance adjusters and tunnel visors.	2 EA
814	16", one-way, LED (DW, W) symbolic pedestrian signal head with adjustable bracket for pole mounting and cutaway visors. (Countdown Display)	6 EA
205	Test pit excavation.	6 C.Y.
801	Furnish and install concrete for signal foundation.	12.8 C.Y.
813	Ground mounted sheet aluminum signs to consist of: D3-2(1) "Lowe's Lane / RIGHT AT SIGNAL" sign, (var x 30") R3-8a "LEFT ONLY / THRU LEFT / RIGHT ONLY" sign, (48" x 30"). R3-7R "RIGHT LANE MUST TURN RIGHT" sign, (30" x 30") R4-7 "KEEP RIGHT (symbolic)" sign, (24" x 30") R5-1 "DO NOT ENTER" sign, (30"x30"). W6-2 "Divided Highway (symbolic)" sign, (36" x 36"). W6-3 "Two Way Traffic (symbolic)" sign, (36" x 36"). W11-1 "Bicycle (symbolic)" sign (30" x 30") W16-1 "SHARE THE ROAD" sign (24" x 30") Spec "LEFT AT SIGNAL" sign, (70" x 8"), 10 gauge sheet metal.	93 S.F.
813	Overhead (mast arm / pole) mounted sheet aluminum sign consisting of: Pedestrian education R10-3(1) sign. (Note: Sign to read "PUSHBUTTON TO CROSS CROSS URBANA PIKE".) Pedestrian education R10-3(1) sign. (Note: Sign to read "PUSHBUTTON TO CROSS CROSS LOWE'S LANE".) Pedestrian education R10-3(1) sign. (Note: Sign to read "PUSHBUTTON TO CROSS CARMAX DRIVEWAY".) D-3(1) "(arrow) Lowe's LN/ Lowe's LN (arrow) sign (variable x 16"). mast arm D-3(1) "(arrow) Urbana PK" sign, (variable x 16"). mast arm R3-5L "LEFT TURN ONLY" sign, (30" x 36"). mast arm R3-5R "RIGHT TURN ONLY" sign, (30" x 36"). mast arm R3-6 "THRU LEFT" sign, (30" x 36"). mast arm M1-5(6) GUIDE SHIELD ASSEMBLY (48"x72") pole mounted. SOUTH / MD 355 / LEFT ARROW M1-5(6) GUIDE SHIELD ASSEMBLY (30"x48") pole mounted. NORTH / MD 355 / RIGHT ARROW	96 S.F.
556	5" white permanent thermoplastic pavement marking.	4650 L.F.
556	5" yellow permanent thermoplastic pavement marking.	3450 L.F.
556	12" white heat applied permanent preformed thermoplastic pavement marking	410 L.F.
556	24" white heat applied permanent preformed thermoplastic pavement marking	150 L.F.
556	Furnish and install heat applied permanent preformed thermoplastic pavement marking "ONLY"...	3 EA
556	Furnish and install heat applied permanent preformed thermoplastic pavement marking arrow. (right)	7 EA
556	Furnish and install heat applied permanent preformed thermoplastic pavement marking arrow. (left)	1 EA

EQUIPMENT LIST (CONT.)

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

SPEC. NUMBER	DESCRIPTION	QUANTITY
556	Furnish and install heat applied permanent preformed thermoplastic pavement marking arrow. (thru/left)	1 EA
	Furnish and install heat applied permanent preformed thermoplastic pavement marking arrow & Bike symbol.	4 EA
	Snowplowable mono-directional white raised pavement marker	79 EA
	Snowplowable BI-directional yellow raised pavement marker	3 EA
	Snowplowable mono-directional yellow raised pavement marker	8 EA
805	Furnish and install 2" schedule 80 rigid polyvinyl chloride - trenched	65 L.F.
805	Furnish and install 3" schedule 80 rigid polyvinyl chloride conduit - trenched	510 L.F.
805	Furnish and install 3" schedule 80 rigid polyvinyl chloride conduit - bored	100 L.F.
805	Furnish and install 4" schedule 80 rigid polyvinyl chloride conduit - bored.	110 L.F.
811	Furnish and install electrical handhole.	8 EA
810	Furnish and install 2-conductor electrical cable (No. 14 A.W.G.).	1050 L.F.
810	Furnish and install 5-conductor electrical cable (No. 14 A.W.G.).	1075 L.F.
810	Furnish and install 7-conductor electrical cable (No. 14 A.W.G.).	1880 L.F.
810	Furnish and install tray cable - 2 conductor (No. 12 AWG)	260 L.F.
810	Furnish and install ground rod - 3/4" x 10'.	4 EA
810	Furnish and install No. 6 AWG stranded bare copper ground wire.	600 L.F.
	Furnish and install 21' steel pole pole and 38' mast arm.	1 EA
	Furnish and install 21' steel pole pole and 44' mast arm.	1 EA
	Furnish and install 27' steel pole pole and 60' mast arm.	1 EA
	Furnish and install 10' pedestal pole with breakaway coupling system.	3 EA
	Furnish and install non-invasive micro-loop with 1000' lead-in.	4 EA
	Video interface	1 EA
	Video camera detector with control cable (up to 500').	4 EA
	Remove and dispose of existing signal equipment and material (including signal foundation 12" below grade).	LUMP SUM
	2-wire central control unit	1 EA
	Audible/tactile pedestrian pushbutton station & signs.	6 EA
	Relocate existing pole mounted sign.	1 EA
808	Furnish and install 20' lighting bracket arm for traffic signal structure.	1 EA
806	Furnish and install 250 watt HPS Luminaire with photocell.	1 EA
812	Furnish and install wood sign supports (4"x4").	176 L.F.
812	Furnish and install wood sign supports (4"x6").	16 L.F.
	Remove existing sign.	2 EA
	Remove existing sign(s) and wood post.	7 EA
	Relocate ground mounted sign and post.	2 EA



STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

MD 355 AND LOWE'S LANE / CARMAX DRIVEWAY

FREDERICK, MD

GENERAL INFORMATION SHEET

SCALE NONE DATE 7/16/12 CONTRACT NO. BW996M82

DESIGNED BY	RRZ	COUNTY	FREDERICK
DRAWN BY	R.C.	LOGMILE	10035508.91
CHECKED BY		TMS NO.	1580
F.A.P. NO.	N/A	TOD NO.	

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